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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,240	07/29/2003	Kouji Yamaguchi	740709-507	4752

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WASHINGTON, DC 20004-2128

EXAMINER
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CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,240

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Ljiljana (Lil) V. Ciric

AVC

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-17 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This Office action is in response to the after-final amendment filed on July 25, 2006.
2. Claims 1 and 5 through 17 remain in the application, all as amended, either directly or indirectly.
3. Upon reconsideration in view of the entire file wrapper history of the instant application, the previously indicated allowability of the claims is hereby withdrawn. Rejections of the claims under 35 U.S.C. 112, first and second paragraphs, follow.
4. In view of the withdrawal of the indicated allowability of claims, the finality of the previous Office action is hereby withdrawn as well.

***Response to Arguments***

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection which follow.

***Information Disclosure Statement***

6. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

7. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. The references listed on lines 9 through 15 of page 1 have not been considered by the examiner.

*Drawings*

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the features canceled from the claims: an electronic apparatus having the inventive flexible heat exchanger on a surface thereof as recited in claim 9; an electronic part having the inventive flexible heat exchanger on a surface thereof as recited in claim 10; and, a solar heat collector having the inventive flexible heat exchanger on a surface thereof as recited in claim 11. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to because of the following informalities: (a) the portion of Figure 1 following the arrow fails to show any reference numbers thereon; and, (b) the cross-hatching appearing in both Figure 2 and Figure 3 corresponds to metal or metallic films, yet the corresponding description in the specification states that Figure 2 illustrates a set of flexible thermoplastic intervening films which should be cross-hatched using a pattern indicative of a resinous or synthetic material and not using one indicative

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of a metallic material. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

10. The abstract of the disclosure is objected to because it fails to fully summarize the characterizing features of the invention as claimed. Correction is required. See MPEP § 608.01(b).

11. The disclosure is objected to because of the following informalities: the acronyms “MD” and “TD” [page 5, line 4] are neither accompanied by the corresponding plain English meaning nor are they art-recognized. Appropriate correction is required.

12. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there is no proper antecedent basis in the specification for the term “plane” as used in the claims [claim 1, line 1, and other occurrences].

13. The use of the trademarks such as “Florinate” [page 6, line 3], “PGS Graphite Sheet” [page 6, line 18], “Upilex S” [page 9, line 12; page 9, line 34], and “Technola Felt” [page 9, line 16] has been noted in

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this application. These should be *capitalized wherever they appears* and be accompanied by the corresponding generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Objections***

14. Claims 1 and 5 through 17 are objected to because of the following informalities: the term “plane” [claim 1, line 1] and other occurrences] should be replaced with either the term “planar” or the term “plain” in order to be idiomatically and grammatically correct. Nevertheless, none of the aforementioned terms are supported by the originally filed disclosure and thus the term “plane” should be removed from the claims. Appropriate correction is required.

15. Claims 8 through 17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. While each of claims 8 through 17 appears to depend from claim 1 as written, each of claims 8 through 17 fails to further limit base claim 1, and instead encompasses a broader scope drawn to a combination of elements.

### ***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. Claims 1 and 5 through 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors,

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at the time the application was filed, had possession of the claimed invention. Base claim 1 now recites that *the flexible heat exchanger* “comprises a linear expansion coefficient of MD, TD and an average of MD and TD, [sic] in the range of  $10 \times 10^{-6}$  to  $35 \times 10^{-6}$  cm/cm/°C at 50-200°C”, but there is no support in the originally filed disclosure for the flexible heat exchanger having either a linear expansion coefficient or a linear expansion coefficient within the cited range. The originally filed disclosure instead specifies that a particular multilayer polyimide film described in the last paragraph of page 4 of the specification (and NOT the flexible heat exchanger as a whole) preferably has a linear expansion coefficient (MD, TD and their average, at 50-200°C) of  $10 \times 10^{-6}$  to  $35 \times 10^{-6}$  cm/cm/°C. Furthermore, base claim 1 (as well as each of claims 12 through 17) also recites that the flexible heat exchanger comprises “a pair of *plane* flexible thermoplastic films”, but the originally filed disclosure fails to provide support for the heat exchanger either comprising either a pair of entirely *planar* or a pair of *plain* flexible thermoplastic films. The aforementioned limitations thus represent new matter which was not clearly in the possession of the inventors at the time of invention.

18. Claims 1 and 5 through 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, base claim 1 as amended now recites that *the flexible heat exchanger* “comprises a linear expansion coefficient of MD, TD and an average of MD and TD, [sic] in the range of  $10 \times 10^{-6}$  to  $35 \times 10^{-6}$  cm/cm/°C at 50-200°C”, but the originally filed disclosure fails to either explain or describe what art-known or plain English terms correspond to the acronyms “MD” and “TD” AND the originally filed disclosure fails to specify how the flexible heat exchanger is to be constructed so that its linear expansion coefficient is within the aforementioned claimed range, thus not only rendering the aforementioned limitations generally incomprehensible but

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also making it inordinately difficult for one of ordinary skill in the art to make and/or use the inventive flexible heat exchanger without undue experimentation.

19. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

20. Claims 1 and 5 through 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to base claim 1 as written, it is not at all clear whether the limitation “*which* are in part fused together” appearing in line 6 of the claim refers to the surface films facing each other or to the pair of plane flexible thermoplastic films or to some other combination of elements previously recited in the claim, thus rendering indefinite claim 1 and claims 5 through 17 depending therefrom with regard to the scope of protection sought thereby.

Since these are not defined in the originally filed disclosure and do not otherwise comprise well-known art terms, is also not clear at all what is encompassed by the acronyms “MD” and “TD” appearing in line 9 of claim 1. Thus, the limitations “a linear expansion coefficient of *MD*, *TD* and an average of *MD* and *TD*, [sic] in the range of  $10 \times 10^{-6}$  to  $35 \times 10^{-6}$  cm/cm<sup>°C</sup> at 50-200°C” containing these acronyms and appearing in lines 9 and 10 of base claim 1 are generally incomprehensible as written, thus further rendering indefinite the intended scope of protection sought by claim 1 and claims 5 through 17 depending therefrom.

21. The non-application of prior art against claims 1 and 5 through 17 should not be construed as indication of allowable subject matter in the claims, but rather as being a result of these claims not being fully examinable prior to the resolution of the problems under 35 U.S.C. 112, first and second paragraphs, as described hereinabove.


#### ***Conclusion***

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22. Please note that Terrell McKinnon is no longer the examiner assigned to this application. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible work schedule and can normally be reached on most weekdays between 11 am and 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ljiljana (Lil) V. Ciric  
Primary Examiner  
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